

ABSTRACT OF THE DISCLOSURE

Disclosed is a channel allocation method in a CDMA communication system. The method comprises receiving from a UTRAN one SF node $C_{SF,k}$ out of 2^{m-1} SF nodes (where m is an integer larger than 3) arranged in the form of a tree having a mother node and child nodes; searching a group including the received SF node $C_{SF,k}$ in accordance with Formula (1) below; spreading a signal on a dedicated physical data channel (DPDCH) with an OVSF code corresponding to a selected one of the received SF node and its child nodes in the searched group; and spreading a signal on a dedicated physical control channel (DPCCH) with an OVSF code corresponding to an SF node determined by Formula (2) below based on the received SF node.

Formula (1)

$$\text{For } SF \leq \frac{2^{m-1}}{4}, (P_1 \cdot SF, P_1 \cdot k) = \left(\frac{2^{m-1}}{4}, n \right)$$

$$\text{For } SF > \frac{2^{m-1}}{4}, \left(P_2 \cdot \frac{2^{m-1}}{4}, P_2 \cdot n \right) = (SF, k)$$

$$\text{where, } P_1 = \frac{2^{m-1}}{4 \cdot SF} \text{ and } P_2 = \frac{4 \cdot SF}{2^{m-1}}.$$

Formula (2)

$$F(C_{\frac{2^{m-1}}{4},k}) = C_{2^{m-1}, 2^{m-1-k-1}} \quad (k = 0, 1, \dots)$$

$$F(C_{\frac{2^{m-1}}{4},k}) = C_{2^{m-1}, 2^{m-1-(k-32)}} \quad (k = 0, 1, \dots)$$